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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,584	01/26/2004	Bernhard Auburger	GR02P20537	1718

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EXAMINER

COLEMAN, WILLIAM D

ART UNIT	PAPER NUMBER
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2823

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,584

Applicant(s)

AUBURGER ET AL.

Examiner

W. David Coleman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 8-14, 16, 17 and 21-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 8-14, 16 and 17 is/are rejected.
- 7) ☒ Claim(s) 21-23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

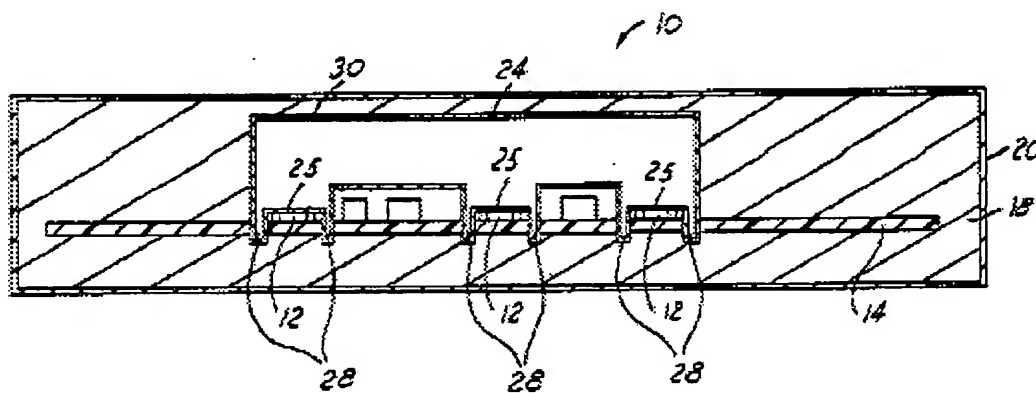
- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 11-14 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wank et al., U.S. Patent 4,828,901 in view of Myers et al., U.S. Patent 6,560,110 B1.



3. Wank discloses a semiconductor process substantially as claimed. Wank teaches a method for encapsulating a plurality of electronic components, which comprises:

joining a plurality of components together (i.e., flip chips);

coating the plurality of components at the same time for providing the plurality of components with a coating of a flowable material;

hardening the material of the coating;

subjecting the assembly including the plurality of components and the coating to at least one further process operation; and

completely encapsulating the assembly of the plurality of components and the coating in plastic. However, Wank fails to disclose a plurality of devices. Myers teaches a plurality of devices. In view of Myers, it would have been obvious to one of ordinary skill in the art to incorporate the features of Myers into the Wank semiconductor process because a corrosive resistant electronics assembly is provided (see Abstract).

4. Pertaining to claim 2, Wank teaches the method according to claim 1, which further comprises applying the coating material to the plurality of components by immersion (please note that dipping is equivalent to immersion).

5. Pertaining to claim 3, Wank teaches the method according to claim 1, which further comprises carrying out the coating providing step by immersing the plurality of components in the coating material (i.e., dipping).

6. Pertaining to claim 11, Wank teaches the method according to claim 1, which further comprises carrying out the hardening step by drying under environmental conditions (i.e. air drying is a conventional drying method, also see column 3, line 62).

7. Pertaining to claim 12, Wank teaches the method according to claim 1, which further comprises providing coating material of the coating with a high coefficient of expansion and good adhesion properties (the Examiner takes the position that sufficiently high number of materials have a coefficient of expansion associated as a fundamental property and the term “high” has no patentable weight).

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8. Pertaining to claim 13, Wank teaches the method according to claim 12, which further comprises selecting the coating material from a plastic selected from the group consisting of polyurethane and silicone (i.e., the intermediate layer, column 3, line 5).

9. Pertaining to claim 14, Wank teaches the method according to claim 1, which further comprises selecting the coating material from a plastic selected from the group consisting of polyurethane and silicone (see the rejection as applied to claim 13 above).

further process operation before carrying out the plastic encapsulating step.

10. Pertaining to claim 16, Wank teaches the method according to claim 1, which further comprises carrying out the plastic encapsulating step by injection molding the assembly with PBT.

11. Pertaining to claim 17, Wank teaches the method according to claim 1, which further comprises carrying out the plastic encapsulating step by encapsulating the assembly by injection molding PBT (see second table).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 4, 5, 8, 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wank et al., U.S. Patent 4,828,901 in view of Myers et al., U.S. Patent 6,650,110 B1 and Stewart et al., U.S. Patent Application Publication No. US 2003/0170450 A1.

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Wank discloses a semiconductor process substantially as claimed. However, Wank fails to teach the following limitations.

14. Pertaining to claim 4, Wank and Myers fails to teach the method according to claim 1, which further comprises applying the coating material to the plurality of components by spraying. Stewart teaches that a coating can be applied by spraying. In view of Stewart, it would have been obvious to one of ordinary skill in the art to incorporate the spraying step of Stewart into the Wank semiconductor process because spraying is an alternative application method, [0075].

15. Pertaining to claim 8, the combined teachings fails to teach the method according to claim 1, which further comprises carrying out the coating providing step by applying the coating material to the plurality of components by several successive coating operations (see the rejection of claims 4 and 5 and the accompanying motivation)

16. Pertaining to claim 9, the combined teachings fails to teach the method according to claim 1, which further comprises carrying out the hardening step by supplying external heat. Stewart teaches carrying out the hardening step by supplying external heat. In view of Stewart, it would have been obvious to one of ordinary skill in the art to incorporate the external heat of Stewart into the Wank semiconductor process because the adhesive is preferably a solid or semi-solid at room temperature [0062].

17. Pertaining to claim 10, the combined teachings fails to teach the method according to claim 1, which further comprises carrying out the hardening step by heating the coating. Please see the rejection and motivation as applied to claim 9 above.

Information Disclosure Statement

18. The information disclosure statement filed January and April of 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Objection

19. Claims 21 and 22 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to W. David Coleman whose telephone number is 571-272-1856.

The examiner can normally be reached on Monday-Friday 9:00 AM - 5:30 PM.

22. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Olik Chaudhuri can be reached on 571-272-1855. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

23. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**W. DAVID COLEMAN
PRIMARY EXAMINER**